



July 24, 2025

Sean Holland, P.E.
Director, Central Region
Alaska Department of Transportation & Public Facilities

Transmitted By Email To: sean.holland@alaska.gov

Subject: Alyeska Highway MP 0-2 Speed Study
LOA 25252057
Kinney Engineering, LLC Work Order 00835

Dear Director Holland:

Kinney Engineering, LLC (KE) has prepared this engineering study of Alyeska Highway speeds in Girdwood, Alaska, for the segment between the Seward Highway MP 0 and Crow Creek Road MP 2.

Attachment A describes the study background, methodology, input data, discussion and analysis of speed and safety factors, and our recommendations.

Attachment B provides a table summarizing the data gathered and conclusions drawn for this roadway. The existing 45 MPH posted speed limit is confirmed to be reasonable and safe based upon measurements of existing conditions for all users along the roadway and roadside.

We also find additional engineering and enforcement countermeasures should be considered. If these strategies were put into place, a lower posted speed limit of 40 MPH is possible. We do not recommend 40 MPH as safe and effective without additional countermeasures.

Sincerely,

A handwritten signature in black ink that reads 'Scott E. Thomas'.

Scott E. Thomas, PE
Traffic Engineer
Kinney Engineering, LLC

Attachments:

- A. Discussion and Analysis of Speeds on the Alyeska Highway MP 0-2
- B. 22_Speed Limit Evaluation Template.xlsx form
- C. USLimits2 Evaluation
- D. PEDSAFE Evaluation
- E. Alaska 5 Year Serious Injury Rates

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Attachment A – Discussion and Analysis of Speeds, Alyeska Hwy MP 0-2

Discussion of community input or interactions with DOT&PF are included for background and context. These are based on the experiences of Scott Thomas, this report's principal analyst and author, who worked as Central Region Traffic and Safety Engineer from 2000 to 2023.

Background

The Alyeska Highway has a posted speed limit of 45 MPH for the 1.8 mile segment extending from the Seward Highway to Crow Creek Road. At a point 560 feet west of the Crow Creek Road intersection, the speed limit changes to 30 miles per hour.

The Alyeska Highway was narrowed in 2017 to 11 foot lanes and 4 foot shoulders. Roadsides were steepened to provide improved drainage space. Previously the highway had wider lanes and shoulders. The existing separated pathway was reconstructed with “sweeps” in front of sidestreet stop bars. These sweeps place pathway users at a location where sidestreet motorists are more likely to see and stop before the pathway conflict area. Sweeps also placed pathway users within the main highway shoulder, next to higher speed traffic. This was a source of significant safety concern for the community which was reviewed with DOT&PF. This concern led to three changes:

- 1) additional recycled asphalt was added to sweeps to permit non-motorized users to choose more buffer distance from traffic,
- 2) DOT&PF pathway standards for future projects were changed to sweep in front of stop bars outside of road shoulders to place more buffer from vehicular travel lanes, and
- 3) the Girdwood Board of Supervisors (GBOS) were provided seasonal traffic calming tools as engineering countermeasures to raise awareness for all users. These included speed stencils, pathway intersection signing, orange candle delineators, and portable “Yield to Pedestrians and Bicyclists” regulatory signs.



Pathway Cyclists shying away from striped sweep to shoulder



New pathway stencils and portable signs at sweeps

Methodology

This speed study was conducted in accordance with

- Alaska Statute AS 19.10.072 *Procedures for Determination of Speed Limits and Zones*,
- Alaska Administrative Code 13 AAC 02.280(b) *Alteration of Speed Limits by State and Municipalities*
- DOT&PF Policy and Procedure 05.05.020 *Establishment of Limits and Zones*
- DOT&PF Central Region Excel template provided for data input and analysis titled “22_Speed Limit Evaluation Template.xlsx”
- Manual on Uniform Traffic Control Devices (MUTCD), 11th edition, 2023, Section 2B.21 *Speed Limit Sign*, (Engineering Study required)
- FHWA USLimits2, *A Tool to Aid Practitioners in Determining Appropriate Speed Limit Recommendations*

Motorist speed observations were sampled in May 2025. Roadway and roadside conditions were field inspected in July 2025. As-built plans for 2017 highway and pathway rehabilitation were also reviewed. Sources of input data are listed below.

Input Data

The following table presents the sources of engineering data used as factors in this analysis. Analysis values are listed within the template form found under Attachment B.

Parameter	Source
Lane width	Project Z585260000 Alyeska Hwy 3R as-builts, field check.
Shoulder width	Project Z585260000 Alyeska Hwy 3R as-builts, field check.
Functional Class	https://akdot.maps.arcgis.com/home/index.html
5-Year Weighted Average Daily Traffic	https://alaskatrafficdata.drakewell.com/publicmultinodemap.asp
Roadway Geometry Curves and Tangents	Project Z585260000 Alyeska Hwy 3R as-builts
Traffic Considerations – Neighborhoods	Field Inspection and Google Earth Pro
Traffic Considerations – Schools and Parks	Field Inspection and Google Earth Pro
Traffic Considerations – Driveways, Parking and Turns to Mainline	Project Z585260000 Alyeska Hwy 3R as-builts, Field Observations, and Google Earth Pro?
Spot Speed Studies	Provided by DOT&PF Central Region
Crash Data	Provided by DOT&PF Central Region
Enforcement	Field observations and Analyst's Past Experience
Local Consultation	Field observations of seasonal traffic control devices and Analyst's Past Experience

In addition to speed studies in May, field observations were made on Saturday, July 20, 2025 to further inspect highway conditions. Users of all ages were observed along the pathway and into the unbuffered sweeps. Vehicles were turning into access points and driveways. Adjacent land uses were noted under ideal conditions. Local enforcement by Whittier Police Department was active and visible. There were no special events or other indicators of temporary conditions. Seasonal countermeasures were in place demonstrating GBOS efforts at pathway sweeps and crosswalks. Some loss of pavement stencils was noticed due to wear and gravel buildup.



Alyeska Highway MP 0, Commercial Area, 45 MPH, May 2025

Discussion and Analysis of speed limit factors

The speed limit evaluation table (Attachment B) forms the basis of this engineering study and this letter. It is organized to work through the considerations required under state law, regulations, federal guidance, and DOT&PF policy. Spreadsheets in an Excel workbook compile data on traffic volumes, speed data, crash data, and FHWA USLimits2 checks used for this speed evaluation.

Roadway Geometry – 45 MPH. The current alignment and width of Alyeska Highway meets the geometric conditions for 45 MPH travel by motorists. There are no geometric features to indicate lower speed travel. The roadway has 11 foot lanes, 4 foot shoulders, and recoverable roadside slopes of 15 feet or more before drainage ditches and steep backslopes. No parking is allowed on the roadway shoulders as indicated through regulatory sign posting. This equates to a lower, more forgiving roadside hazard rating of 3 out of 7.



Pathway buffer, roadside slopes, and frequent access points

Trafficway - Neighborhoods and Road Function – Residential, Minor Arterial. Adjacent neighborhoods are of a lower density residential land use, often collected on cul-de-sac driveways or streets. The Alyeska Highway is not a residential street template and does not have a predominance of mailboxes. There are not vehicles frequently backing directly from homes to the street.

Trafficway – Pedestrians, Schools, and Parks. Pedestrians and children are observed regularly using a buffered pathway on the west side of the highway. This pathway is buffered typically 30 feet from the roadway lanes, beyond a ditch. However, at most stop-controlled intersections, the pathway requires pedestrians and bicyclists to “sweep” in front of stop bars directly adjacent to Alyeska Highway through traffic. There is good visibility throughout the corridor. Visibility is reduced at driveway crossings and can be expected to be less under winter conditions – primarily at locations not on the main highway. There are no marked crosswalks or higher volume nonmotorized crossings within this highway segment. No school or park facilities directly access this highway segment. The parallel pathway can serve as a walking route to school by choice, but has busing service and is outside designated walking areas closer to the Girdwood Elementary School to the north and east.

Overall, the conflicts between residential land use, nonmotorized users, pedestrian crossings and highway traffic is moderate. Setback land use, access collection, good visibility, and low crossing activity are safer features balanced against a concern for unbuffered sweeps next to traffic, the frequency of access points, and regular pathway use by all ages and abilities.

Driveways and Approach Roads. There is a higher frequency of driveways and consolidated residential access along this arterial, combined with regularly spaced sidestreets that operate similar to shared residential access. Two major commercial approaches are adjacent to the Seward Highway

termini. Overall, frequent access density and residential use translates to intermediate use and conflict levels.

Spot Speed Studies. The following table provides a summary of observed motorist's speed data collected on Thursday, May 15, 2025. A representative sample of free-flowing motorists and vehicle types were observed.

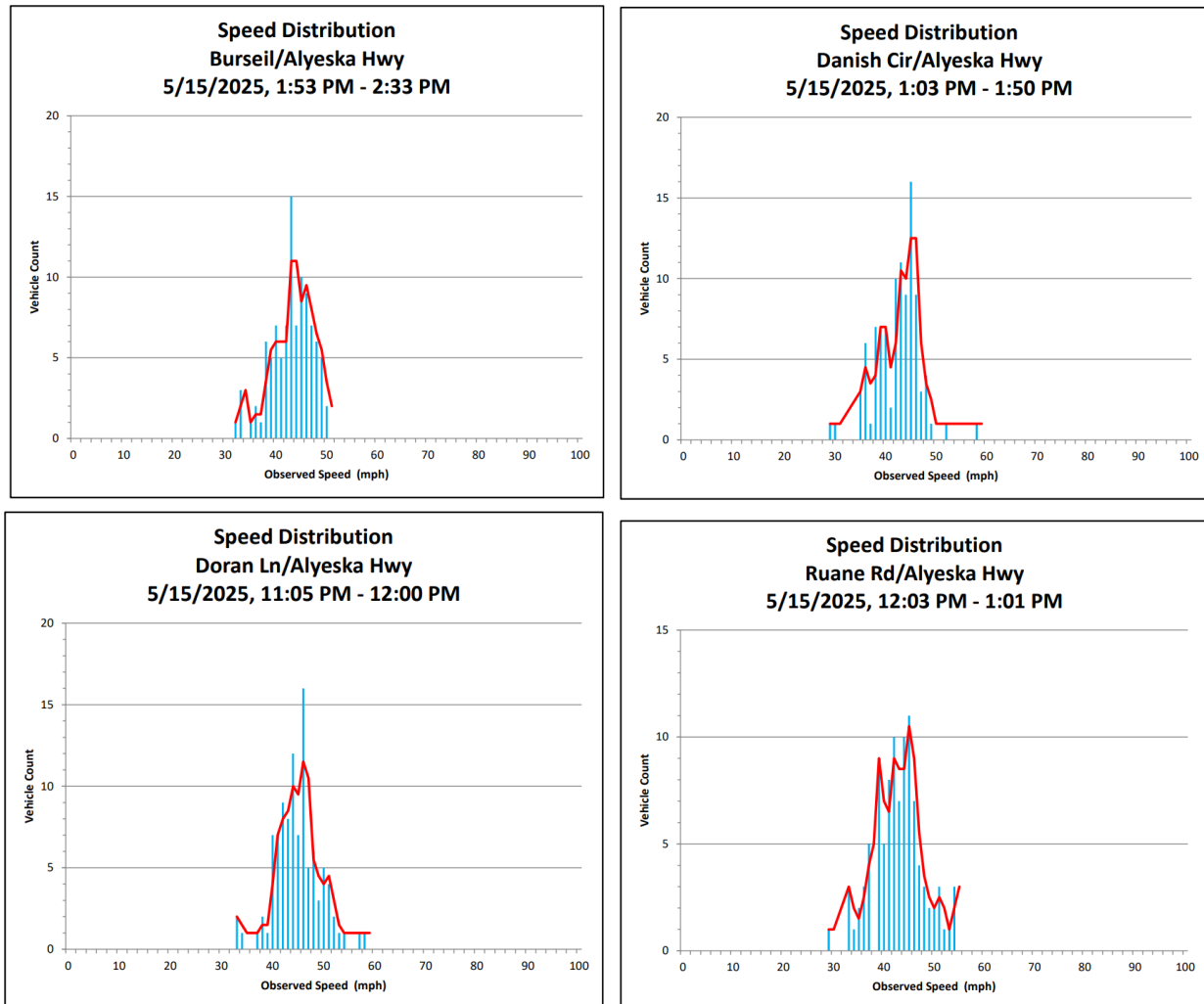
Speed Location	Observations	Mean Speed	85 th Percentile Speed	Pace Range (% in Range)	95% Confidence Level Error for 85 th Percentile Speed*
Bursiel Circle / Alyeska Hwy SW	99	43 MPH	47 MPH	38 MPH - 47 MPH (79%)	+/- 1.00 MPH
Danish Circle / Alyeska Hwy SW	100	42 MPH	46 MPH	38 MPH - 47 MPH (81%)	+/- 1.10 MPH
Doran Lane / Alyeska Hwy NE	102	45 MPH	49 MPH	40 MPH - 49 MPH (78%)	+/- 1.10 MPH
Ruane Road / Alyeska Hwy SW	101	43 MPH	47 MPH	39 MPH - 48 MPH (73%)	+/- 1.25 MPH

**Errors for 85th percentile speeds were computed by KE. These lower-value errors indicate that the number of observations, around 100, were adequate to accurately represent a "population" 85th percentile value (for May). As such, we conclude observed mean and pace values are similarly representative of the population.*

The speed of most motorists is at or below 45 MPH when rounding down to the nearest potential speed limit. The 85th percentile speed supports a maximum speed limit of 45 MPH. Up to 5 percent of existing motorists were sampled well outside this range nearing 55 to 60 MPH, where speed enforcement of ticketable offenses best apply.

The "pace range" or grouping of most motorists within a 10 MPH band of each other is good, at or near eighty percent. This suggests most reasonable and prudent drivers observe the roadway geometry and conflicting conditions are safe and react by driving within a range of 38 to 48 MPH.

Sensitivity analysis was tested within the speed limit evaluation form and USLimits2 software. This was done by considering the range of confidence in measured speeds shown above. KE found reductions in 85th percentile and pace median speeds by 1.00 to 1.25 MPH did not change analysis outcomes or recommendations. This would support the current speed limit of 45 MPH absent any other conflicts or concerns. State Policy allows for no lower than the median speed of the "pace range" in situations where there are higher conflicts and concerns beyond roadway geometry.



Existing Speed Distributions of Motorists along Alyeska Highway MP 0-2, May 2025

Crash History. Crashes reported by law enforcement or otherwise self-reported by motorists were reviewed over the most recent five-year period from 2019-2023. Total crash rates are below statewide averages. There was one serious single-vehicle-run-off-road collision at or near Brenner Circle. At these lower volumes, intermediate speeds, and shorter segment length, any serious injury collisions are a concern. With one serious crash, the serious injury rate exceeds the statewide average serious injury rate. However, when basing rates on one collision, this does not necessarily indicate a pattern or recurring concern. Instead, the overall rating for this segment is considered low based upon the total crash rate.

Enforcement. The Girdwood community contracts with the Whittier Police Department for local enforcement. Active enforcement was observed on Saturday, July 20, 2025, along the lower speed (30 MPH) segment north of this study. Past input from the community indicated enforcement was helpful and effective on the highway. Even with enforcement, spot speed studies indicate about one-fifth of motorists exceed the current posted speed limit of 45 MPH, with most at or below 50 MPH. As is common, about one percent of motorists disregard posted speeds and operate at speeds more than 55 MPH, especially on straight segments. Out of 2700 vehicles per day on average, this can mean as many as 30

“speeders” or reckless drivers per day and seem like a lot. However, thousands of other motorists are generally careful, reasonably and prudently driving at or near the current speed limit of 45 MPH.



Active Whittier Police Enforcement Stop, May 2025

Local Consultation. Past community input has included concerns for vehicular speeds and for pathway safety near the roadway. The Girdwood Board of Supervisors (GBOS) has met with DOT&PF to request additional engineering countermeasures to support local enforcement.

Several countermeasures have been agreed to and provided by DOT&PF using past roadway rehabilitation funding, including narrowing the roadway to 11 foot lanes and 4 foot shoulders and installing pathway devices. Non-motorized stencils were placed in the pathways and are currently fading with wear. GBOS provides significant efforts to maintain portable regulatory devices and delineators. This work is performed seasonally at sidestreets near the roadway where the pathway is unbuffered.

USLimits2 Review.

The Federal Highway Administration (FHWA) provides a speed limit assessment tool that works through many of the same factors assessed by Alaska law and State policy. Inputting segment length, road conditions, land use, nonmotorized use, and vehicular speed characteristics results in a speed limit recommendation that supports the existing speed limit of 45 MPH.

USLimits2 recognizes nonmotorized use and conflicts as “high” and the presence of frequent driveways and sidestreet conflict points. Before considering a lower speed limit, USLimits2 suggests additional engineering countermeasures should be considered to help lower speeds and improve enforcement effectiveness. Changing to a lower posted speed limit without countermeasures is a safety concern.

Under the existing range of motorist speeds, a lower speed limit could spread out the pace range, lower the pace percentage, and create a wider range of compliant and noncompliant speeds. This results in greater speed differentials between users and possibly more risk taking and passing maneuvers by some motorists.

DOT&PF Policy. DOT&PF Policy and Procedure 05.05.020, Section C, sets the conditions for consideration of a reduced posted speed which can be lowered to the median of the pace of most motorists. FHWA USLimits2 suggests measured 85th percentile speeds can be rounded down for safety. Using this same approach, the median speed of the “pace” (or 10 mph band of most motorists) could be rounded down to 40 MPH on this roadway.

Under DOT&PF Policy and Procedure, a posted speed limit of 40 MPH is possible when added safety concerns and conflicts are present. Under USLimits2 and national best practices, additional countermeasures should be considered before lowering a speed limit into the median of the pace group of motorists.

Additional Engineering Countermeasures. Several engineering countermeasures are more suited to DOT&PF and GBOS capabilities for ongoing maintenance and operations. These are in use within the speed zones of other Kenai Peninsula communities such as Cooper Landing, Homer, and Moose Pass:

- Restriping existing narrower lanes using wider, 6-inch lane lines
- Placing speed limit stencil reminders in travel lanes
- Install more frequent speed limit signing
- Add more seasonal portable regulatory signing in or near the roadway
- Add more seasonal portable delineators in or near the road lanes at conflict areas

National best practices and resources such as FHWA’s PEDSAFE¹ were also reviewed with inputs for existing conditions and conflicts. Two more engineering countermeasures are available for feedback to the driver. These would require more work and more costs for maintenance and operations at the state and local level than the list above. Feedback devices used in some communities in Alaska include:

- Dynamic speed feedback signs (“Your speed is...”)
- Portable speed feedback carts used by local road maintenance

Additional Enforcement Countermeasures. A commitment to frequent enforcement is critical and was observable in the existing 30 MPH zone to the east of Crow Creek Road. A speed limit lowered to the median of the pace (40 MPH) would require additional investments in enforcement to be effective. Reviewing national best practices and PEDSAFE, options include:

- Additional staffing hours assigned to increase visibility and results along MP 0-2
- Portable speed feedback carts used by law enforcement
- Automated speed enforcement signs supported by new laws or regulations.

¹ Pedestrian Safety Guide and Countermeasure Selection System, FHWA

Conclusions

Kinney Engineering's speed study documents existing conditions which support retaining the speed limit of 45 MPH up to the transition at Crow Creek Road. These results were confirmed through the FHWA USLimits2 program.

Two community safety concerns are recognized which could support a reduction to 40 MPH in the future:

- a) the proximity of pedestrians, including children, unbuffered by shoulders or other delineation near the roadway lanes, and
- b) a higher residential driveway density increasing conflicts along the roadway.

Additional engineering countermeasures are available to be applied on the roadway to address these safety concerns. These countermeasures are comparable to past state and local efforts used on the pathway and to measures used in other communities on the Kenai Peninsula. Added countermeasures would encourage reduced speeds lower than observed under existing conditions.



Nonmotorized proximity to traffic in roadway shoulders at sidestreets

Recommendations

1. **45 MPH.** Retain the existing 45 MPH posted speed limit. The current speed limit for existing conditions and enforcement levels is consistent with DOT&PF speed limit evaluation under state policy and confirmed with FHWA's USLimits2 evaluation tool.
2. **40 MPH plus Countermeasures.** Consider a speed limit reduction to 40 MPH with increased enforcement and community awareness solutions, combined with added engineering countermeasures. State policy allows for recognition of local enforcement commitments and safety concerns. National guidance recommends added countermeasures.
3. **Consistent Countermeasures.** For either speed limit option, consider engineering countermeasures used in other Alaskan communities to increase compliance. This includes speed limit stencils, more signing, and delineation.
4. **Increased Enforcement.** For either speed limit option, consider enforcement levels in MP 0-2 at or above levels in the roadway zone to the east.
5. **M&O Agreements.** Consider maintenance and operating agreements to optimize state and local capabilities for various countermeasures.

State of Alaska - Department of Transportation & Public Facilities - Central Region Form										
ATTACHMENT B - SPEED LIMIT EVALUATION										
Alyeska Highway, between Seward Highway and Crow Creek Road										
CDS Route Name		Alyeska Highway (Girdwood)		CDS Route Number		135200/2241003X000		Existing Speed Limit (mph)		45
By		Scott E. Thomas, P.E.		Date		7/15/2025		Requested Speed Limit (mph)		N/A
(b)(4) Statutory										
ZONE										
From		Seward Highway (edge of roadway)		To		560 ft west of Crow Creek Road		Length		
CDS Milepoint		0.019		CDS Milepoint		1.847		Feet		9,652
								Miles		1.828
ROADWAY DATA										
Roadside Rating		3		Lane Surface		Paved		Number of Through Lanes		2
Lane Width (ft)		11		Shoulder Surface		Paved		Shoulder Width (ft)		4
Functional Class		Minor Arterial						Fore / Back Slope		4 / 2
Borough or City		Municipality of Anchorage, Girdwood Community						5 Year Weighted Average Daily Traffic		2,719
Planned Projects		No planned projects in the near term (2024-2027 STIP)								
										TRAFFIC
										Low
ROADWAY GEOMETRY										
Horizontal Curves			Tangents			Total				
Advisory Speed (mph)	Length (ft)		Advisory Speed (mph)	Length (ft)		Advisory Speed (mph)	Percentage			
< 25			< 25			< 25	0.0			
25			25			25	0.0			
30			30			30	0.0			
35			35			35	0.0			
40			40			40	0.0			
45	1,437		45	8,215		45	100.0			
50			50			50	0.0			
55			55			55	0.0			
60			60			60	0.0			
65			65			65	0.0			
> 65			> 65			> 65	0.0			
Length Unaccounted For (ft)			0			Character of Vertical Curves			Level	
										GEOMETRY
										45 mph
TRAFFICWAY CONSIDERATIONS										
AS 19.10.072(a)(1) Neighborhoods										
		Description / Comments								
Character of roadway		Rural, residential driveways and low use sidestreets. Frequent shared access to individual pocket neighborhoods.					Nghbrhood		No	
Pedestrians / children		Yes, along pathway. Low to no Xings. No observed neighborhood-type play activity on or in highway.					Presence		Moderate	
		Pathway sweeps fitted into shoulders at sidestreets without buffer space available.							Moderate	
Non-motorized facility type		Separated pathway. Sweeps for sidestreet motorist visibility, stopping before conflict.					Facility		Pathway	
Separation from roadway		Non-traverseable drainage, ditched buffer 30 feet except at sweeps.					Separation		30	
Pedestrian / cyclist visibility		Good visibility along main highway. Limited visibility at driveways.					Visibility		Adequate	
W-11 warning signs		No - adequate sight distance along corridor.					Warning		No	
Crosswalk presence / type		Not within this segment, but to the east at Hightower Ave in the 30 MPH zone.					Crosswalk		No	
Crosswalk candidate		Not within this 45 MPH segment studied.					Candidate		No	
AS 19.10.072(a)(2) Schools & Parks										
		Description / Comments								
Presence / names of schools		No					Schools		No	
School types / grades		N/A								
School zone devices / signs		N/A					Devices		No	
Presence of houses		Ex: Yes, Houses on adjacent properties, typically buffered by trees and/or pathway.					Houses		Low	
Development level		Rural Residential buffered, mostly through sidestreets and drives.								
Presence / names of parks		California Creek Park access beyond study segment northeast of Crow Creek Road					Parks		None	
Park types / access		Park and creek accessible at Hightower Ave, east of segment								
										LAND USE & CROSSING
										Intermediate
AS 19.10.072(a)(3) Driveways, Parking & Turns to Mainline										
Major Approaches (busier)		0		Minor Approaches (lower use)		12		Weighted Intersections / Mile		6.56
Commercial Drives (busier)		2		Residential / Minor Drives (lower use)		54		Weighted Driveways / Mile		32.82
Busier Access / Mile		1.09						Weighted Access / Mile		39.39
Comments		Increased frequency residential and low use driveways (<= 10 vpd). Two busy commercial access point at or near Seward Hwy, west end of segment. Overall, this increases low use to intermediate vehicular conflict.								
Parked vehicles		N/A					Parking Typical		No	
										CONFLICT
										Intermediate

* 2nd Tier refers to property which is in the proximity of the roadway but does not have direct access to the roadway in review

SAFETY DATA									
AS 19.10.072(a)(4) Spot Speed Studies									
Study Location	Date (M-Year)	Time of Day	Sample Count	Median Speed	Pace Median	85th Percentile	Pace Range (mph)	Percent in Pace	Averages
Bursiel/Alyeska Hwy SW	May-25	Afternoon	99	43	43	47	38 - 47	79	Median 44 PACE Med 43 85th %ile 47 PACE 39 - 48 % in PACE 78
Danish Cir/Alyeska Hwy SW	May-25	Afternoon	100	43	43	46	38 - 47	81	
Doran Ln/ Alyeska Hwy NE	May-25	Morning	102	45	44	49	40 - 49	78	
Ruane Rd/Alyeska Hwy SW	May-25	Afternoon	101	43	43	47	39 - 48	73	
Comments	Consistent good quality pace of motorists at or near the existing posted speed limit.								PACE Quality
* All Spot Studies are Free Flow Traffic. (Lower posted speeds can worsen the pace speed group differentials between users and lead to more vehicular and pedestrian conflicts.)								Good	Median to 85th Range 44 - 47 mph
CRASH HISTORY									
Analysis Years		2019-2023		Total Crashes		16		State Average Rates	
Weighted Average Volume		2,719		Multi-Vehicle		8		Total on Segment	
				Fatal		0		Total Crashes (/MVT)	
Intersection		Crashes per MEV		Major		1		Multi-Vehicle (/MVT)	
				Opposing		1		Fatal (/HMVT)	
				Left Angle		1		Fatal + Major (/HMVT)	
				Right Angle		1		Opposing (/MVT)	
State Average Rate at Type		1.020		Signalized		0.520		Left Angle (/MVT)	
				Unsignalized		4		Right Angle (/MVT)	
Comments		Crashes at all intersections are less than last AK statewide HSIP Program averages. All computed crash rates use a 1 mile minimum length.							
									CRASH HISTORY
									Low
ENFORCEMENT AS 19.10.072(a)(5) Local Enforcement Effectiveness									
State Trooper Input	Locally enforced.								Lower limit effective?
Local Police Input	Past MOA/GBOS input in 2019 verified contracts with Whittier Police to improve local enforcement. Active enforcement was observable in May 2025 to the east.								Yes
									Enforcement Impact
									Intermediate
LOCAL CONSULTATION AS 19.10.072(b)									
Municipal Input	MOA, GBOS letters of concern on file through 2019 indicating concerns for speeds, pathway conflicts.								Requested? City
Community Input	MOA, GBOS letters of concern on file through 2019 indicating concerns for speeds, pathway conflicts.								No
Written Requests	No written requests for a change of speed limit since road rehabilitation changes, narrowing.								Comm. Yes
FINDINGS Policy, Procedure, Standards, Engineering Study & Judgment									
1	This Evaluation form shows 45 MPH is reasonable and safe for existing conditions.								FHWA US Limits
2	FHWA USLIMITS2 supports the existing posted speed limit of 45 MPH with consideration of existing conditions. USLimits2 suggests considering before lowering the speed limit.								45
3	Roadway narrowing was designed and constructed in 2016 through 2018 to affect speeds and improve nonmotorized facilities. Community discussions with DOT&PF requested continued efforts to reduce speeding and improve safety.								Engineer Study Recomm.
4	Engineering countermeasures have been actively implemented locally since 2019. Locally funded enforcement countermeasures have been contracted with Whittier Police.								45
5	A reduction of the posted speed limit to 40 MPH can be effective dependent upon additional countermeasures.								Change? Yes
									CONCLUSION
									45
References									
AS 19.10.072 Procedures for Determination of Speed Limits and Zones								2012	
13 AAC 02.275 Basic Rule and Maximum Limits								6/28/1979	
13 AAC 02.280 Alteration of Limits by State and Municipalities								2/27/1997	
AK DOT&PF Policy and Procedure 05.05.020 Establishment of Speed Limits and Zones								7/6/2012	
ITE Traffic Engineering Handbook - 6th ed., Chapter 5: Safety								2009	
Alaska Traffic Manual, Sections 2B.13, 2C.08, 2C.50, 3B.18, 7A.100, 7A.101								6/16/2016	

ATTACHMENT C

USLIMITS2 Speed Zoning Report

Project Overview

Project Name: Alyeska Hwy Speed Study

Analyst: Scott Thomas

Date: 2025-07-17

Basic Project Information

Project Number: 25252057
Route Name: Alyeska Hwy
From: Seward Hwy
To: Crow Creek Rd
State: Alaska
County: Anchorage Municipality
City: Girdwood
Route Type: Road Section in Developed Area
Route Status: Existing

Roadway Information

Section Length: 1.828 mile(s)
Statutory Speed Limit: 55 mph
Existing Speed Limit: 45 mph
Adverse Alignment: No
One-Way Street: No
Divided/Undivided: Undivided
Number of Through Lanes: 2
Area Type: Residential-Collector/Arterial
Number of Driveways: 68
Number of Signals: 0

Crash Data Information

Crash Data Years: 10.00
Crash AADT: 2719 veh/day
Total Number of Crashes: 16
Total Number of Injury Crashes: 3
Section Crash Rate: 88 per 100 MVM
Section Injury Crash Rate: 17 per 100 MVM
Crash Rate Average for Similar Roads: 232
Injury Rate Average for Similar Roads: 66

Traffic Information

85th Percentile Speed: 47 mph
50th Percentile Speed: 44 mph
AADT: 2719 veh/day
On Street Parking and Usage: Not High
Pedestrian / Bicyclist Activity: High

Project Description: KE Draft Review of current conditions for DOTPF

Recommended Speed Limit: 45

Note: The road section is in an area with high pedestrian or bicycle activity. Consider implementing engineering measures to reduce speeds before lowering the recommended speed limit. See [Engineering Countermeasures for Speed Management](#) and [PedSafe](#) for more guidance.

Disclaimer: The U.S. Government assumes no liability for the use of the information contained in this report. This report does not constitute a standard, specification, or regulation.

Equations Used in the Crash Data Calculations

Exposure (M)

$$M = (\text{Section AADT} * 365 * \text{Section Length} * \text{Duration of Crash Data}) / (100000000)$$

$$M = (2719 * 365 * 1.828 * 10.00) / (100000000)$$

$$M = 0.1814$$

Crash Rate (Rc)

$$Rc = (\text{Section Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$$

$$Rc = (1.60 * 100000000) / (2719 * 365 * 1.828)$$

$$Rc = 88.19 \text{ crashes per 100 MVM}$$

Injury Rate (Ri)

$$Ri = (\text{Section Injury Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$$

$$Ri = (0.30 * 100000000) / (2719 * 365 * 1.828)$$

$$Ri = 16.54 \text{ injuries per 100 MVM}$$

Critical Crash Rate (Cc)

$$Cc = \text{Crash Average of Similar Sections} + 1.645 * (\text{Crash Average of Similar Sections} / \text{Exposure}) ^{(1/2) + (1 / (2 * \text{Exposure}))}$$

$$Cc = 231.80 + 1.645 * (231.80 / 0.1814) ^{(1/2) + (1 / (2 * 0.1814))}$$

$$Cc = 293.36 \text{ crashes per 100 MVM}$$

Critical Injury Rate (Ic)

$$Ic = \text{Injury Crash Average of Similar Sections} + 1.645 * (\text{Injury Crash Average of Similar Sections} / \text{Exposure}) ^{(1/2) + (1 / (2 * \text{Exposure}))}$$

$$Ic = 66.27 + 1.645 * (66.27 / 0.1814) ^{(1/2) + (1 / (2 * 0.1814))}$$

$$Ic = 100.47 \text{ injuries per 100 MVM}$$

ATTACHMENT D - PEDSAFE - Countermeasure Selection Tool Results

7/23/2025 set

Name of Location	Alyeska Hwy MP 0-2 Pathway
Performance Objective	Reduce Speed of Motor Vehicles
Site Description Answers	
Type of Area	Suburban
Functional Class	Collector or Minor Arterial
Intersection or Midblock	Midblock
Volume	Low (<10,000 ADT)
Speed	Low (<= 45 mph)
No. of Lanes	2 or fewer lanes
Traffic Signal	Not present (Installation is not an option)
Transit Line/Route	Yes, the roadway is on a transit line/route.
School Zone/Crossing	No, the roadway is not in a school zone or a school crossing.
Railroad Crossing	No, the roadway does not contains a railroad crossing.
Work Zone	No, the roadway is not in a work zone.
Main Groups and Countermeasures	
KE Comments	
Along the Roadway	Street Furniture
	Portable delineation option
At Crossing Locations	Curb Extension
	No curb. Portable delineation option
	Not recommended at intermediate speeds for plowing. Portable delineation option.
	Raised Pedestrian Crossing
Roadway Design	Bike Lane/Shoulder
	Existing 4' shoulder, and pathway in place
	Road/Lane Narrowing
	Completed in 2017, 11' lanes, 4' shoulders
	Driveway Improvements
	Completed in 2017, sweeps at sidestreets
Traffic Calming	Temporary Installations for Traffic Calming
	Some seasonal devices in place with GBOS. More?
	Speed Table (midblock)
	Not recommended at intermediate speeds for plowing. Portable delineation option.
	Landscape Options
	Not in near area of highway slopes
	Paving Treatments
	Requires a capital project
Signals and Signs	Sign Improvement
	Added regulatory signs, temporary or permanent
Other Measures	Speed Monitoring Trailer
	Recommended option
	Automated Enforcement Systems
	Requires local legislation, determination

ATTACHMENT E - ALASKA 5 YEAR SERIOUS INJURY RATES

Computed for Alyeska Highway MP 0-2 Analysis

Year	Crashes	Annual VMT (millions)	Crashes per MVM	(K) Fatalities Involved (from FARS)	(SI) Serious Injuries (from AK CARE)	KSI Totals	Fatality Rate	KSI Crash Rate
2019	7710	5888	1.31	67	242	309	1.14	5.25
2020	8279	5360	1.54	64	246	310	1.19	5.78
2021	7905	6321	1.25	70	245	315	1.11	4.98
2022	7877	5669	1.39	82	226	308	1.45	5.43
2023	9208	5617	1.64	60	216	276	1.07	4.91
	8196	5771	1.43	69	235	304	1.19	5.27



IMPORTANT: The link above (<https://cdan.dot.gov/SASJobExecution/>) is a generic link and cannot be bookmarked

National Highway Traffic Safety Administration (NHTSA) Motor Vehicle Crash Data Querying and Reporting

Persons Involved in Fatal Crashes

Filter Selected: Person Injury Type: *Fatal ; or Injured, Incapacitating*

State: *Alaska*

Years: *2019-2023*

Persons Involved in Fatal Crashes¹

Note: Click the link within a table cell to view those records on a web map

Person Injury Type	Crash Date (Year)					
	2019	2020	2021	2022	2023	Total
Fatal	67	64	70	82	60	343
Injured, Incapacitating	29	23	20	24	24	120
Total	96	87	90	106	84	463

Download Report: | [pdf](#) | [docx](#) | [xlsx](#) | (Important: Downloads make take a few seconds - Use Ctrl-J to view download progress)

Data Sources:

¹[Fatality Analysis Reporting System \(FARS\): 2019-2022 Final File and 2023 Annual Report File \(ARF\)](#)

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